Gefen®

CAT5-1600A Extender

EXT-CAT5-1600A

User Manual

www.gefen.com

ASKING FOR ASSISTANCE

Technical Support:

Telephone	(818) 772-9100
	(800) 545-6900
Fax	(818) 772-9120

Technical Support Hours:
8:00 AM to 5:00 PM Monday thru Friday Pacific Time

Write To:

Gefen LLC
c/o Customer Service
20600 Nordhoff St
Chatsworth, CA 91311

www.gefen.com
support@gefen.com

Notice

Gefen LLC reserves the right to make changes in the hardware, packaging and any accompanying documentation without prior written notice.

CAT5-1600A Extender is a trademark of Gefen LLC

© 2011 Gefen LLC, All Rights Reserved
All trademarks are the property of their respective owners

CONTENTS

1 Introduction

2 Operation Notes

3 Features

4 Sender Unit Layout

5 Sender Unit Descriptions

6 Receiver Unit Layout

7 Receiver Unit Descriptions

8 Connecting the CAT5-1600A Extender

9 DIP Switch Configuration

12 Network Cable Wiring Diagram

13 Specifications

14 Warranty

INTRODUCTION

Congratulations on your purchase of the CAT5-1600A Extender. Your complete satisfaction is very important to us.

Gefen

Gefen is a unique product line catering to the growing needs for innovative home theater solutions. We specialize in total integration for your home theater, while also focusing on going above and beyond customer expectations to ensure you get the most from your hardware. We invite you to explore our distinct product line and hope you find your solutions. Please call us so we can better assist you with your particular needs.

The Gefen CAT5-1600A Extender

The Gefen CAT5-1600A extends VGA and Audio up to 1000 feet (300 meters) and USB up to 330 feet (100 meters) using CAT-5 cables. Display resolutions up to 1920 x 1200 are supported. A local monitor can be connected to the Sender Unit and up to two monitors can be connected to the Receiver Unit. Four USB connectors on the Receiver Unit allow control of the computer system from the KVM workstation. Mini-stereo connectors provide for the connection and the extension of audio devices.

How It Works

Place the CAT5-1600A Sender Unit next to the VGA source. Use the included VGA cable to connect the source to the Sender Unit. Optionally connect a local monitor to the Sender Unit using a VGA cable. Connect up to two monitors to the Receiver Unit with VGA cables. Connect the USB devices to the input and output connectors. For audio, connect a mini-stereo cable between the audio source and the audio input on the Sender Unit. Connect a mini-stereo cable between the audio output on the Receiver Unit and the audio device. Use two CAT-5 cables to connect the Sender Unit to the Receiver Unit. VGA and Audio can be extended to 1000 feet (300 meters). USB is extended over a separate CAT-5 cable up to 330 feet (100 meters). Connect the included locking power supplies to both the Sender Unit and Receiver Unit then connect both power cables to available electrical outlets. The computer can now be controlled from the KVM workstation.

READ THESE NOTES BEFORE OPERATING THE CAT5-1600A EXTENDER

- The CAT5-1600A extends VGA and Audio up to 1000 feet (300 meters).
- CAT-5 cables should not exceed 330 feet (100 meters) when extending USB.

FEATURES

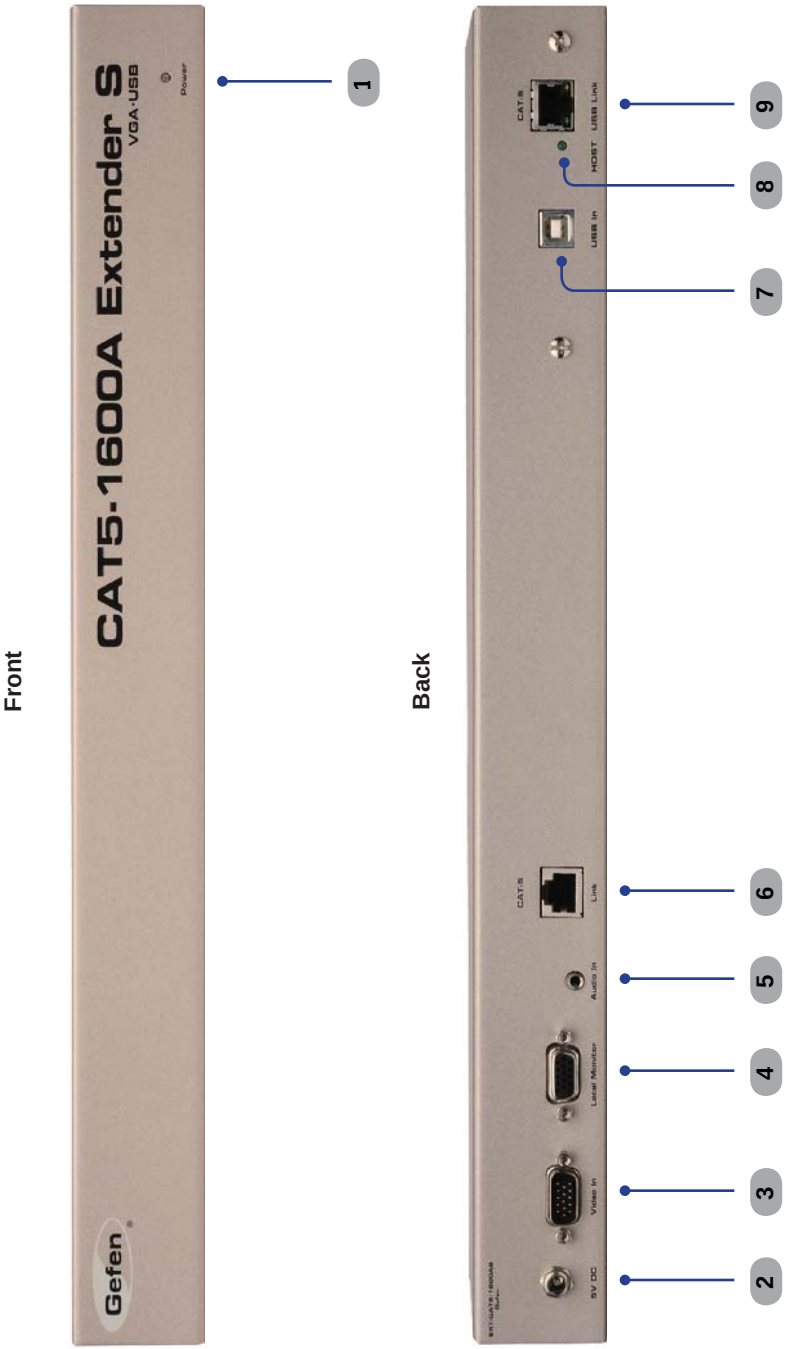
Features

- Extends any VGA and Audio device up to 1000 feet (300 meters)
- Extends USB devices up to 330 feet (100 meters)
- Supports resolutions up to 1920x1200@60Hz
- Local and Pass-Through EDID Modes
- Supports USB 2.0
- Backward-compatible with USB 1.1 devices
- Color, Brightness, and Focus controls to compensate for the extension distance and skew variations found in different CAT-5 cabling.
- Standby Mode for reduced power consumption when a VGA source is not detected.
- Locking Power Connectors
- Mounting Brackets

Package Includes

(1) CAT5-1600A - Sender Unit
(1) CAT5-1600A - Receiver Unit
(1) 6 ft. VGA Cable (M-F)
(1) 6 ft. USB Cable (A-B)
(1) 6 ft. Mini-Stereo Cable (3.5 mm)
(2) 5V DC Locking Power Supplies
(1) Set of Rack Ears
(1) User Manual

SENDER UNIT LAYOUT



SENDER UNIT DESCRIPTIONS

1 Power Indicator
This LED will turn RED once the locking power supply has been properly connected. When the CAT-5 link is established between the Sender and Receiver units, the LED will be GREEN. When the Sender unit is in Standby Mode or Power Saving Mode, this LED will be RED. (Power Saving Mode is covered in detail on page 9).

2 5V DC Locking Power Connector
Connects the included 5V DC Locking Power Supply to this receptacle.

3 VGA Input (HD15 Connector)
Connect the VGA source to this port.

4 Local Monitor Output (HD15 Connector)
Connect a VGA monitor to this port.

5 Audio Input Connector (3.5mm Mini-Stereo)
Connect analog audio here via a 3.5 mm audio jack.

6 CAT-5 Video Output Jack (RJ-45 Connector)
Connects the Sender unit to the Receiver Unit using CAT-5 cable. Used to extend the video signal to the Receiver Unit.

7 USB Input Port (USB type "B")
Connect a Computer or USB device to this port.

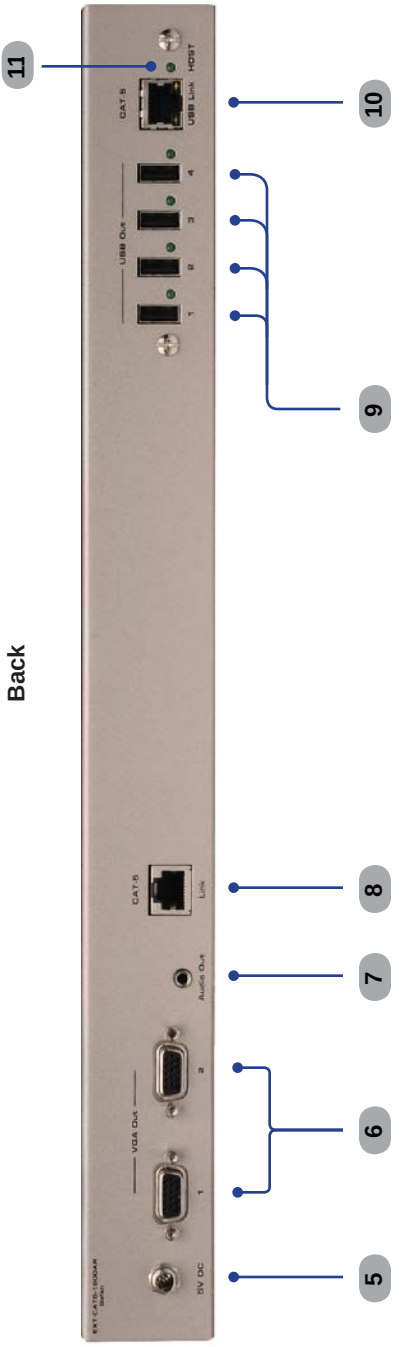
8 Host Indicator
This LED will turn GREEN when the power and all devices are connected to the Sender unit. The LED will turn RED if a USB device or monitor has been disconnected from the Sender unit.

9 CAT-5 USB Link Output (RJ-45 Connector)
Connects the Sender unit to the Receiver unit using CAT-5 cable. Used to extend the USB device from the Sender Unit to the Receiver Unit.

Front

CAT5-1600A Extender R
VGA-USB
Gefen
Shift
R G B
BR Foc
Power
1
2
3
4

Back


CAT 5
USB Link
HOST
USB Out
1
2
3
4
CAT-5
Link
Audio Out
VGA Out
1
2
5V DC
5
6
7
8
9
10
11

RECEIVER PANEL DESCRIPTIONS

1 RGB Equalization Trim Pots (Trim Potentiometers)
Adjusts the Red, Green, and Blue color components to correct color convergence / divergence due to varying distances and/or skew variations found in different brands of CAT-5 cable. Turn the controls to achieve the best color and picture. See page 11 for details.

Note: When turning the Trim Pots, use a small screwdriver or an electronic device adjustment tool (available at electronics stores). Use gentle force when rotating Trim Pot controls. Turn controls in both directions if necessary to get best results. Never force a control if resistance is encountered. Gefen is not responsible for inoperable units due to broken trim pot controls.

2 Brightness Trim Pot
Adjusts the brightness of the picture.

3 Focus Trim Pot
Adjusts the focus of the picture.

4 Power Indicator LED
This LED will turn RED once the locking power supply has been properly connected. When the CAT-5 link is established, the LED will be GREEN. When the Receiver unit is in Standby Mode or Power Saving Mode, this LED will be RED. (Power Saving Mode is covered in detail on page 9).

5 5V DC Locking Power Connector (threaded jack on rear left of Receiver)
Connects the included 5V DC Locking Power Supply here. Screw in the locking power connector with hand force only until it stops turning. Do not overtighten.

6 VGA Outputs (2 x HD15 Connectors)
Connect VGA monitors to these ports.

7 Audio Output Connector (3.5mm Mini-Stereo)
Connect the audio from this port to an analog audio amplifier.

8 CAT-5 Video Link Input (RJ-45 Connector)
Connects the Sender unit to the Receiver unit using CAT-5 cable. Used to receive the video signal from the Sender Unit.

9 USB Ports (4 x USB 2.0 type "A")
Connect the USB devices (keyboard, mouse device, etc.) to these ports. The CAT5-1600A Receiver functions as a 4-port USB 2.0 Hub.

10 CAT-5 USB Link Input (RJ-45 Connector)
Receives the USB signals from the Sender Unit. Connects to the Receiver unit via a length of CAT-5 cabling.

11 Host Indicator
This LED will turn GREEN when the power and all devices are connected to the Sender unit. The LED will turn RED if a USB device or monitor has been disconnected from the Sender unit.

How to Connect the CAT5-1600A

1. Connect the Sender Unit to the computer using the included VGA and USB cables. If audio is being used, connect the included 3.5mm mini-stereo cable between the audio source and the audio input on the Sender Unit.

2. Connect the local VGA monitor to the Local Monitor output on the Sender Unit.

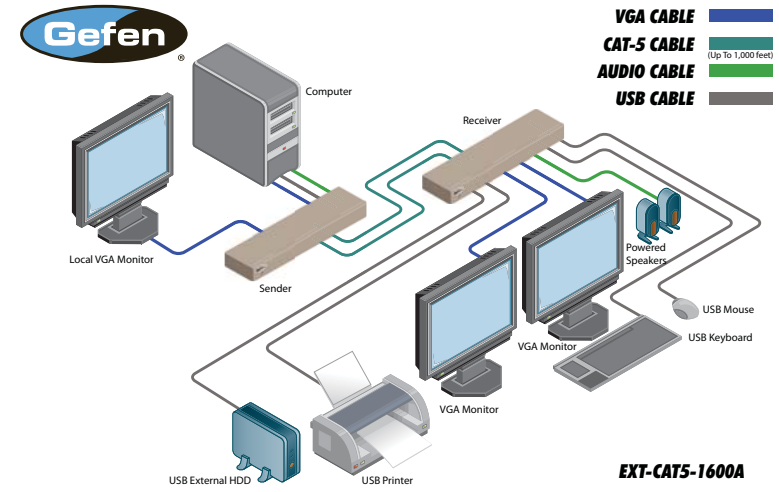
3. Place the Receiver Unit near the KVM workstation and connect the display, mouse, keyboard, printer and any other USB devices to the Receiver Unit. Up to four (4) USB devices can be connected to the Receiver Unit.

   NOTE: USB has a maximum extension distance of 330 feet (100 meters).

4. Using two CAT-5 cables, connect a CAT-5 cable between the **Link** connector on the Sender Unit and the **Link** connector on the Receiver Unit. Connect another CAT-5 cable between the **USB Link** connector on the Sender Unit and the **USB Link** connector on the Receiver Unit.

5. Connect the 5V DC locking power supplies to both the Sender Unit and the Receiver Unit. Do not overtighten the locking connectors. Plug the power cords into any available wall outlets.

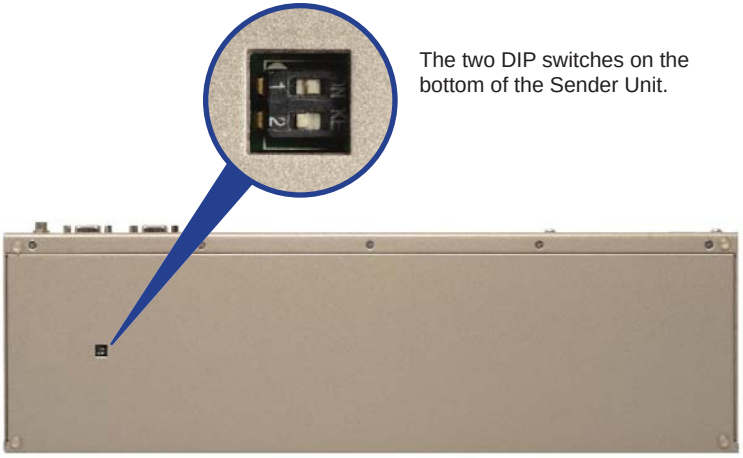
Wiring Diagram for the CAT5-1600A Extender



ATTENTION: This product should always be connected to a grounded electrical socket.

Sender Unit

The CAT5-1600A contains two (2) DIP switches on the bottom of the Sender Unit and the Receiver Unit. The follow information outlines the functionality of each DIP switch:



The two DIP switches on the bottom of the Sender Unit.

DIP Switch 1 - Green Mode (Default = ON)

- ***OFF*** - Enable Green Mode

  If DIP switch 1 is set to the OFF position, then the product is will be placed in “Green Mode”. This means that the unit will not power the USB if the USB cable from the Sender to the computer source is disconnected. In “Green Mode”, the product consumes less than 1 watt of power.

- ***ON*** - Disable Green Mode

  When DIP switch 1 on the Sender Unit is set to the ON position, “Green Mode” is disabled. This means that the USB is always powered whether or not there is a signal. This mode will allow the computer to wake up when it is placed in sleep mode.

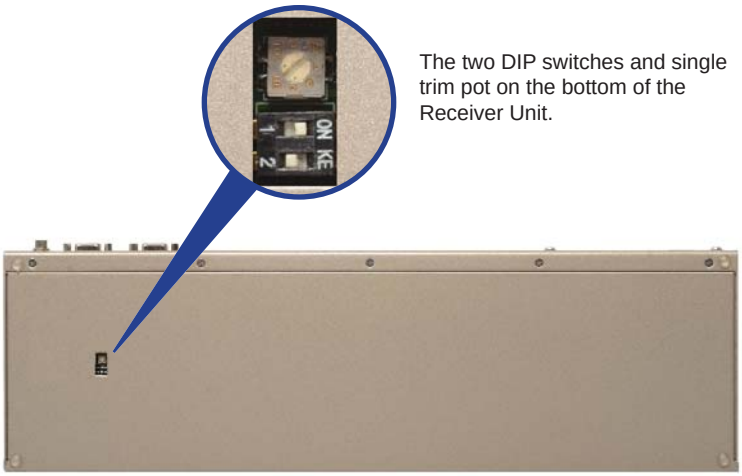
DIP Switch 2 - Not Used

- Reserved for future expansion.

NOTE: DIP switch 1 on *both* the Sender Unit and the Receiver Unit must be set to the OFF position in order to operate in “Green Mode”.

Receiver Unit

The CAT5-1600A Receiver Unit contains two (2) DIP switches on the bottom of the unit. A single trim pot (potentiometer) is also located next to the DIP switch bank. The follow information outlines the functionality of each DIP switch and the trim pot:



The two DIP switches and single trim pot on the bottom of the Receiver Unit.

DIP Switch 1 - Green Mode (Default = ON)

- ***OFF*** - Enable Green Mode

  If DIP switch 1 is set to the OFF position, then the product is will be placed in “Green Mode”. This means that the unit will not power the USB if the USB cable from the Sender to the computer source is disconnected. In “Green Mode”, this product consumes less than 1 watt of power.

- ***ON*** - Disable Green Mode

  When DIP switch 1 is set to the ON position, “Green Mode” is disabled. This means that the USB is always powered whether or not there is a signal. This mode will allow the computer to wake up when it is placed in sleep mode.

NOTE: DIP switch 1 on *both* the Sender Unit and the Receiver Unit must be set to the OFF position in order to operate in “Green Mode”.

DIP Switch 2 - EDID Mode (Default = OFF)

- ***OFF*** - Pass-Through Mode

  If DIP switch 2 is OFF, then the downstream EDID information is copied to the input.

- ***ON*** - Local EDID

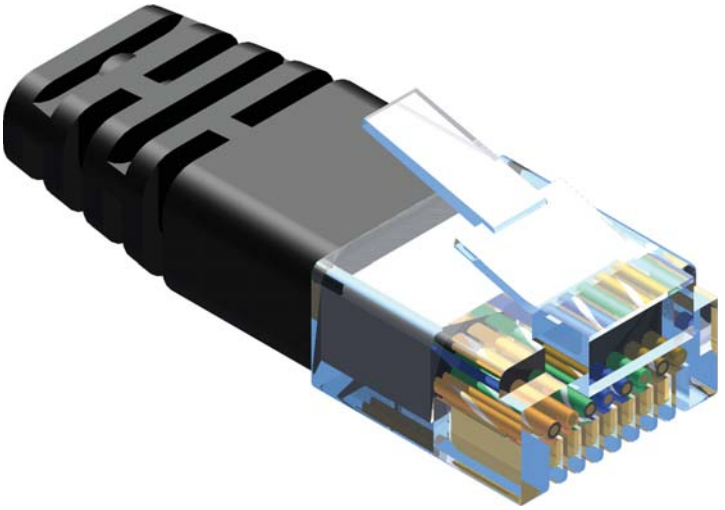
  When DIP switch 2 is set to the ON position, then the EDID is copied from the Local Monitor output on Sender Unit.

Trim Pot - Pole Frequency

This trim pot is used to adjust the brightness and focus of the picture.

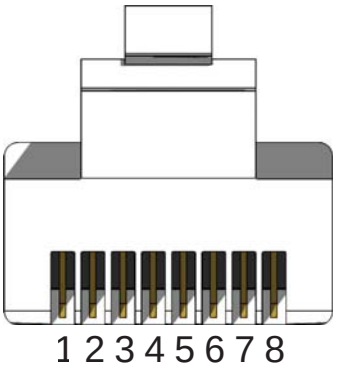
1. Insert a small flat-headed tool into the EQ trim pot located on the bottom of the Receiver Unit.
2. The trim pot has 8 set positions. Turn the trim pot clockwise until it clicks into the next position. Continue adjusting the trim pot until the issue is resolved.
3. Carefully remove the adjustment tool.

NETWORK CABLE WIRING DIAGRAM



Gefen recommends the TIA/EIA-568-B wiring option. Please adhere to the table below when field-terminating the CAT-5 cable for use with Gefen products.

Pin	Color
1	Orange / White
2	Orange
3	Green / White
4	Blue
5	Blue / White
6	Green
7	Brown / White
8	Brown



CAT-5 cabling comes in stranded and solid core types. Gefen recommends using solid core cabling.

It is recommended to use one continuous run from one end to the other. Connecting through a patch is not recommended.

SPECIFICATIONS

Video Amplifier Bandwidth ..... 350 MHz

Input Video Signal.....1.2 V p-p

Input Sync Signal..... 5 V p-p (TTL)

Horizontal Frequency Range ..... 15 kHz - 70 kHz

Vertical Frequency Range ..... 30 kHz - 170 kHz

VGA Connectors (Sender Unit) ..... (1) HD-15, male; (1) HD-15, female

VGA Connectors (Receiver Unit) ..... (2) HD-15, female

USB Connector (Sender Unit) ..... (1) Type B

USB Connectors (Receiver Unit) ..... (4) Type A

Audio Connector (Sender / Receiver) ..... 3.5 mm mini-stereo

Link Connectors (Sender / Receiver) ..... (2) RJ-45

Power Indicator (Sender / Receiver).....LED (red / green)

Host Indicator (Sender / Receiver) ..... LED (red / green)

Power Supplies (Sender / Receiver) ..... 5V DC

Power Connectors (Sender / Receiver) ..... Locking

Power Consumption ..... 30 W (max.)

Operating Temperature .....0 - 40 °C

Dimensions (Sender / Receiver) .....17” W x 1.75” H x 5.25” D

Shipping Weight.....5.0 lbs.

Certifications.....UL (power supply), RoHS, CE

WARRANTY

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.

2. Customers outside the US are responsible for shipping charges to and from Gefen.

3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, refer to the Warranty and Return Policy under the Support section of the Gefen Web site at www.gefen.com.

PRODUCT REGISTRATION

Please register your product online by visiting the Register Product page under the Support section of the Gefen Web site.

Rev A5

20600 Nordhoff St., Chatsworth CA 91311

1-800-545-6900 818-772-9100 fax: 818-772-9120

www.gefen.com support@gefen.com

This product uses UL listed power supplies.